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AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (original): A method of operating a wireless
2 communications device, comprising:
3 maintaining a first set of queue information
4 indicating for each of a plurality of different
5 transmission priority levels a number of data units to be
6 transmitted; and
7 periodically generating a group of transmission
8 requests over time as a function of said maintained queue
9 information, said group of transmission requests including:
10 a first transmission request specifying an absolute
11 number of data units to be transmitted for a first one of
12 said plurality of different transmission priority levels.

1 Claim 2 (original): The method of claim 1, wherein said
2 group of transmission requests further includes:
3 a second transmission request.

1 Claim 3 (currently amended): The method of claim 2,
2 wherein said first transmission request is located at a
3 pre-selected position within said group of requests, said
4 step of generating said group of requests including:
5 incorporating in the first transmission request, as
6 said absolute number, a number of data units to be
7 transmitted corresponding to the highest transmission
8 priority level having a non-zero number of data units to be
9 transmitted, as indicated by said set of queue information.

1 Claim 4 (currently amended): The method of claim 3,
2 wherein generating said group of transmission requests
3 includes:

4 incorporating a second number of data units to be
5 transmitted corresponding to another transmission priority
6 level, into said first transmission request.

1 Claim 5 (original): The method of claim 2, further
2 comprising:

3 maintaining a second set of queue information
4 indicating for each of said plurality of different
5 transmission priority levels an estimate of a base
6 station's estimate of the first set of queue information
7 maintained by said wireless communications device.

1 Claim 6 (currently amended): The method of claim 2,
2 wherein said second transmission request includes a
3 relative value indicating a relative number of data units
4 corresponding to one of said plurality of different
5 transmission priority levels to be transmitted.

1 Claim 7 (original): The method of claim 6, wherein said
2 relative value is relative to an estimate of a base station
3 estimate of a value in the first queue information
4 maintained by said wireless communications device.

1 Claim 8 (currently amended): The method of claim 5,
2 wherein said second transmission request includes a
3 relative value indicating a relative number of data units
4 corresponding to one of said plurality of different
5 transmission priority levels to be transmitted.

1 Claim 9 (currently amended): The method of claim 8,
2 wherein said relative value is generated as a function of a
3 difference between the number of data units in the first
4 and second sets of queue information corresponding queues

5 ~~correspond~~ to said one of said plurality of different
6 transmission priority levels.

1 Claim 10 (currently amended): The method of claim 9,
2 wherein said absolute value is generated using a first
3 quantization table; and
4 wherein said relative value is generated using a
5 different quantization table including a different number
6 of quantization levels than said first quantization table.

1 Claim 11 (currently amended): The method of claim 5,
2 wherein said wireless terminal determines the priority
3 level for which ~~said~~ data unit information is to be
4 included in at least one of said first and second
5 transmission requests as a function of values included in
6 both said first and second sets of queue information
7 queues.

1 Claim 12 (currently amended): The method of claim 6,
2 wherein said group of transmission requests includes more
3 requests including relative values than requests including
4 absolute numbers of data units to be transmitted for one of
5 said plurality of different transmission priority levels.

1 Claim 13 (currently amended): The method of claim 1,
2 wherein the first and second transmission requests include
3 different numbers of bits, the first transmission request
4 including at least twice the number of bits as ~~the~~ a second
5 transmission request which follows said first transmission
6 request message.

1 Claim 14 (currently amended): The method of claim 1,
2 wherein each group of transmission requests includes at
3 least three requests, the method further comprising:

4 transmitting each group of requests in a time period
5 less than 98 milli-seconds in duration.

1 Claim 15 (currently amended): The method of claim 1,
2 further comprising:

3 transmitting ~~a said~~ first transmission request to a
4 base station at a first point in time;

5 discarding data corresponding to said first one of
6 said plurality of different transmission priority levels
7 prior to receiving a signal indicating that said first
8 transmission request was granted;

9 updating said first set of queue information to
10 reflect the discarding of data corresponding to the first
11 one of said plurality of different transmission priority
12 levels; and

13 transmitting said second transmission request at a
14 second point in time, said second point in time following
15 said updating of said first set of queue information to
16 reflect the discarding of data.

1 Claim 16 (currently amended): A wireless communications
2 device, comprising:

3 a first set of queue information indicating for each
4 of a plurality of different transmission priority levels a
5 number of data units to be transmitted; and

6 means for periodically generating a group of
7 transmission requests over time as a function of said
8 ~~maintained~~ first set of queue information, said group of
9 transmission requests including:

- 10 i) a first transmission request specifying an absolute
11 number of data units to be transmitted for a first one
12 of said plurality of different transmission priority
13 levels; and
14 ii) a second transmission request.

1 Claim 17 (currently amended): The wireless communications
2 device of claim 16, wherein said first transmission request
3 is located at a pre-selected position within said group of
4 transmission requests, said means for periodically
5 generating a group of transmission requests including:
6 means for incorporating in the first transmission
7 request, as said absolute number, the number of data units
8 to be transmitted corresponding to the highest transmission
9 priority level having a non-zero number of data units to be
10 transmitted as indicated by said set of queue information.

1 Claim 18 (currently amended): The wireless communications
2 device of claim 16, wherein said means for periodically
3 generating said group of transmission requests further
4 includes:
5 means for incorporating a second number of data units
6 to be transmitted corresponding to another transmission
7 priority level into said first transmission request.

1 Claim 19 (currently amended): The wireless communications
2 device of claim 16, further comprising:
3 a second set of queue information indicating for each
4 of said plurality of different transmission priority levels
5 an estimate of a base station's estimate of the first set
6 of queue information maintained by said wireless
7 communications device.

1 Claim 20 (currently amended): The wireless communications
2 device of claim 19, further comprising:
3 memory for storing said first and second transmission
4 requests prior to transmission, said second transmission
5 request including a relative value indicating a relative
6 number of data units corresponding to one of said plurality

7 of different transmission priority levels to be
8 transmitted.

1 Claim 21 (currently amended): The wireless communications
2 device of claim 20, wherein said relative value is relative
3 to a number of data units in said second set of queue
4 information corresponding to said one of said plurality of
5 different transmission priority levels.

1 Claim 22 (currently amended): The wireless communications
2 device of claim 19, further comprising:
3 memory for storing said second transmission request,
4 said second transmission request including a relative value
5 indicating a relative number of data units corresponding to
6 one of said plurality of different transmission priority
7 levels to be transmitted.

1 Claim 23 (currently amended): The wireless communications
2 device of claim 22, wherein said means for periodically
3 generating a group of transmission requests generates said
4 relative value as a function of a difference between the
5 number of data units in the first and second queues
6 correspond to said one of said plurality of different
7 transmission priority levels.

1 Claim 24 (currently amended): The wireless communications
2 device of claim 23, further comprising
3 a first quantization table used to generate said
4 absolute value; and
5 a second quantization table including a different
6 number of quantization levels than said first quantization
7 table, said second quantization table being used to
8 generate said relative value.

1 Claim 25 (currently amended): The wireless communications
2 device of claim 19, wherein said wireless terminal includes
3 means for determining the transmission priority level for
4 which said data unit information is to be included in one
5 of said first and second transmission requests as a
6 function of the values included in both said first and
7 second sets of queue information ~~queues~~.

1 Claim 26 (currently amended): The wireless communications
2 device of claim 20, wherein said group of transmission
3 requests includes more transmission requests including
4 relative values than transmission requests including
5 absolute values.

1 Claim 27 (currently amended): The wireless communications
2 device of claim 16, wherein the first and second
3 transmission requests include different numbers of bits,
4 the first transmission request including at least twice the
5 number of bits as ~~the~~ a second transmission request which
6 follows said first transmission request ~~message~~.

1 Claim 28 (currently amended): A method of operating a base
2 station to allocate uplink channel communications resources
3 in a multiple access system where multiple wireless
4 terminals can request uplink channel communication
5 resources from said base station, the method comprising;
6 maintaining a set of queue information indicating, for
7 each wireless terminal requesting data units which have not
8 yet been allocated as requested, the requested number of
9 data units for each priority level for which an unsatisfied
10 data unit request was received;
11 monitoring to receive uplink channel resource requests
12 from any one of said wireless terminals;

13 in response to a received resource allocation request
14 including at least one of an absolute number of requested
15 data units and a relative number of requested data units
16 corresponding to one of ~~said~~ a plurality of different
17 transmission priority levels,
18 i) performing a queue information update
19 operation; and
20 ii) allocating uplink channel resources as a
21 function of the updated queue information.

1 Claim 29 (currently amended): The method of claim 28,
2 wherein updating said queue information includes generating
3 updated requested numbers of data units for said one of
4 said plurality of different transmission priority levels as
5 a function of L most recent assignments made by said base
6 station where L is a known value at the time said request
7 is received, L being a positive integer.

1 Claim 30 (currently amended): The method of claim 29,
2 wherein said step of generating updated requested numbers
3 of data units as a function of the most recent L
4 assignments includes accessing memory storing assignment
5 information as a vector including a mobile node identifier,
6 a plurality of transmission priority levels and, for each
7 transmission priority level, an assigned number of data
8 units.

1 Claim 31 (currently amended): The method of claim 29,
2 wherein updating said queue information includes replacing
3 a number of data units, corresponding to one of said
4 plurality of different transmission priority levels, in
5 said set of queue information with a requested number of
6 data units corresponding to said one of said plurality of
7 different transmission priority levels, said requested

8 number of data units being an absolute value communicated
9 by said received request.

1 Claim 32 (currently amended): The method of claim 31,
2 further comprising:
3 setting the ~~numbers~~ number of data units corresponding
4 to transmission priority levels which have a higher
5 transmission priority than said one of said plurality of
6 different transmission priority levels to zero.

1 Claim 33 (currently amended): The method of claim 29,
2 wherein updating said queue information includes adding to
3 the number of data units corresponding to one of said
4 plurality of different transmission priority levels in said
5 set of queue information with the requested number of data
6 units specified in the received request.

1 Claim 34 (original): The method of claim 29, wherein
2 updating said queue information includes
3 subtracting at least some numbers of assigned data units in
4 the L assignments to values included in said set of queue
5 information.

1 Claim 35 (original): The method of claim 29, wherein
2 updating said queue information includes
3 adding at least some numbers of assigned data units in the
4 L assignments to values included in said set of queue
5 information.

1 Claim 36 (currently amended): A base station for
2 allocating uplink channel communications resources in a
3 multiple access system where multiple wireless terminals
4 can request uplink channel communication resources from
5 said base station, the base station comprising;

6 a set of queue information indicating, for each
7 wireless terminal requesting data units which have not yet
8 been allocated as requested, the requested number of data
9 units for each priority level for which an unsatisfied data
10 unit request was received;
11 a receiver for receiving uplink channel resource
12 requests from any one of said wireless terminals;
13 a module for performing a queue information update
14 operation in response to a received resource allocation
15 request including at least one of an absolute number of
16 requested data units and a relative number of requested
17 data units corresponding to one of said a plurality of
18 different transmission priority levels; and
19 ~~means~~ an uplink resource allocation module for
20 allocating uplink channel resources as a function of the
21 updated queue information and said received resource
22 allocation request.

1 Claim 37 (currently amended): The base station of claim
2 36, wherein said module for performing a queue information
3 update operation includes:
4 means for generating updated requested numbers of data
5 units for said one of said plurality of different
6 transmission priority levels as a function of L most recent
7 assignments made by said base station where L is a known
8 value at the time said request is received.

1 Claim 38 (currently amended): The base station of claim
2 37, wherein said module for performing a queue update
3 operation further includes:
4 means for replacing a requested number of data units,
5 corresponding to one of said plurality of different
6 transmission priority levels, in said set of queue
7 information with a requested number of data units

8 corresponding to said one of said plurality of different
9 transmission priority levels, said requested number of data
10 units being an absolute value communicated by said received
11 request.

1 Claim 39 (currently amended): The base station of claim
2 38, wherein said module for performing a queue update
3 operation further includes:

4 means for setting requested numbers of data units
5 corresponding to priority levels which have a higher
6 priority than said one of said plurality of different
7 transmission priority levels to zero.

1 Claim 40 (currently amended): The base station of claim
2 37, wherein said module for performing a queue update
3 operation further includes:

4 means of adding a requested number of data units
5 corresponding to one of said plurality of different
6 transmission priority levels in said set of queue
7 information with a requested number of data units specified
8 in the received request.

1 Claim 41 (new): An apparatus comprising:

2 a processor configured to implement a communications
3 method, the method comprising:

4 maintaining a first set of queue information
5 indicating for each of a plurality of different
6 transmission priority levels a number of data units to be
7 transmitted; and

8 periodically generating a group of transmission
9 requests over time as a function of said maintained queue
10 information, said group of transmission requests including:

11 a first transmission request specifying an absolute
12 number of data units to be transmitted for a first one of
13 said plurality of different transmission priority levels.

1 Claim 42 (new): The apparatus of claim 41, wherein said
2 group of transmission requests further includes:
3 a second transmission request.

1 Claim 43 (new): The apparatus of claim 42, wherein said
2 first transmission request is located at a pre-selected
3 position within said group of requests, the step of
4 generating said group of requests further including:
5 incorporating in the first transmission request, as
6 said absolute number, a number of data units to be
7 transmitted corresponding to the highest transmission
8 priority level having a non-zero number of data units to be
9 transmitted, as indicated by said set of queue information.

1 Claim 44 (new): A computer readable medium embodying
2 machine executable instructions for controlling a
3 communications device to implement a method, the method
4 comprising:
5 maintaining a first set of queue information
6 indicating for each of a plurality of different
7 transmission priority levels a number of data units to be
8 transmitted; and
9 periodically generating a group of transmission
10 requests over time as a function of said maintained queue
11 information, said group of transmission requests including:
12 a first transmission request specifying an absolute
13 number of data units to be transmitted for a first one of
14 said plurality of different transmission priority levels.

1 Claim 45 (new): The machine readable medium of claim 44,
2 wherein said group of transmission requests further
3 includes:
4 a second transmission request.

1 Claim 46 (new): The machine readable medium of claim 45,
2 wherein said first transmission request is located at a
3 pre-selected position within said group of requests, the
4 step of generating said group of requests further
5 including:
6 incorporating in the first transmission request, as
7 said absolute number, a number of data units to be
8 transmitted corresponding to the highest transmission
9 priority level having a non-zero number of data units to be
10 transmitted, as indicated by said set of queue information.

1 Claim 47 (new): A wireless communications device,
2 comprising:
3 a memory device including a first set of queue
4 information indicating for each of a plurality of different
5 transmission priority levels a number of data units to be
6 transmitted; and
7 a transmission request generation module for
8 periodically generating a group of transmission requests
9 over time as a function of said first set of queue
10 information, said group of transmission requests including:
11 i) a first transmission request specifying an absolute
12 number of data units to be transmitted for a first one
13 of said plurality of different transmission priority
14 levels; and
15 ii) a second transmission request.

1 Claim 48 (new): The wireless communications device of
2 claim 47, wherein said first transmission request is

3 located at a pre-selected position within said group of
4 transmission requests, said transmission request generation
5 module for periodically generating a group of transmission
6 requests including:

7 a module for incorporating in the first transmission
8 request, as said absolute number, the number of data units
9 to be transmitted corresponding to the highest transmission
10 priority level having a non-zero number of data units to be
11 transmitted as indicated by said set of queue information.

1 Claim 49 (new): An apparatus comprising:

2 a processor configured to control a base station to
3 implement a method of allocating uplink channel
4 communications resources in a multiple access system where
5 multiple wireless terminals can request uplink channel
6 communication resources from said base station, the method
7 comprising:

8 maintaining a set of queue information indicating, for
9 each wireless terminal requesting data units which have not
10 yet been allocated as requested, the requested number of
11 data units for each priority level for which an unsatisfied
12 data unit request was received;

13 monitoring to receive uplink channel resource requests
14 from any one of said wireless terminals;

15 in response to a received resource allocation request
16 including at least one of an absolute number of requested
17 data units and a relative number of requested data units
18 corresponding to one of a plurality of different
19 transmission priority levels,

20 i) performing a queue information update
21 operation; and

22 ii) allocating uplink channel resources as a
23 function of the updated queue information.

1 Claim 50 (new): The apparatus of claim 49,
2 wherein updating said queue information includes
3 generating updated requested numbers of data units for said
4 one of said plurality of different transmission priority
5 levels as a function of L most recent assignments made by
6 said base station where L is a known value at the time said
7 request is received, L being a positive integer.

1 Claim 51 (new): The apparatus of claim 50, wherein said
2 step of generating updated requested numbers of data units
3 as a function of the most recent L assignments includes
4 accessing memory storing assignment information as a vector
5 including a mobile node identifier, a plurality of
6 transmission priority levels and, for each transmission
7 priority level, an assigned number of data units.

1 Claim 52 (new): A computer readable medium embodying
2 machine executable instructions for controlling a base
3 station to implement a method of allocating uplink channel
4 communications resources in a multiple access system where
5 multiple wireless terminals can request uplink channel
6 communication resources from said base station, the method
7 comprising:
8 maintaining a set of queue information indicating, for
9 each wireless terminal requesting data units which have not
10 yet been allocated as requested, the requested number of
11 data units for each priority level for which an unsatisfied
12 data unit request was received;
13 monitoring to receive uplink channel resource requests
14 from any one of said wireless terminals;
15 in response to a received resource allocation request
16 including at least one of an absolute number of requested
17 data units and a relative number of requested data units

18 corresponding to one of a plurality of different
19 transmission priority levels,
20 i) performing a queue information update
21 operation; and
22 ii) allocating uplink channel resources as a
23 function of the updated queue information.

1 Claim 53 (new): The computer readable medium of claim 52,
2 wherein updating said queue information includes
3 generating updated requested numbers of data units for said
4 one of said plurality of different transmission priority
5 levels as a function of L most recent assignments made by
6 said base station where L is a known value at the time said
7 request is received, L being a positive integer.

1 Claim 54 (new): The computer readable medium of claim 53,
2 wherein said step of generating updated requested numbers
3 of data units as a function of the most recent L
4 assignments includes accessing memory storing assignment
5 information as a vector including a mobile node identifier,
6 a plurality of transmission priority levels and, for each
7 transmission priority level, an assigned number of data
8 units.

1 Claim 55 (new): A base station for allocating uplink
2 channel communications resources in a multiple access
3 system where multiple wireless terminals can request uplink
4 channel communication resources from said base station, the
5 base station comprising;
6 information storage means for storing a set of queue
7 information indicating, for each wireless terminal
8 requesting data units which have not yet been allocated as
9 requested, the requested number of data units for each

10 priority level for which an unsatisfied data unit request
11 was received;
12 receiver means for receiving uplink channel resource
13 requests from any one of said wireless terminals;
14 means for performing a queue information update
15 operation in response to a received resource allocation
16 request including at least one of an absolute number of
17 requested data units and a relative number of requested
18 data units corresponding to one of a plurality of different
19 transmission priority levels; and
20 means for allocating uplink channel resources as a
21 function of the updated queue information and said received
22 resource allocation request.

1 Claim 56 (new): The method of claim 2, further comprising:
2 incorporating a second number of data units to be
3 transmitted, corresponding to a second one of said
4 plurality of different transmission priority levels, into
5 said first transmission request; and
6 wherein said second transmission request includes a
7 relative value indicating a relative number of data units
8 corresponding to one of said plurality of different
9 transmission priority levels to be transmitted.